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ALTIMETRY

RTCA/DO-88
November 1, 1958
Reprinted: July 15, 1971
Second Reprinting: July 28, 1980
Third Reprinting: March 1, 1991

Prepared by:
SC-70

FOREWORD

This report, prepared by RTCA Special Committee 70, was accepted by the Executive Committee of the Radio Technical Commission for Aeronautics under date of November 18, 1958. It thereby becomes an official Paper of RTCA and is distributed as such.

The RTCA is a cooperative association of all United States Government-Industry aeronautical telecommunication agencies. It conducts studies of aeronautical telecommunication problems and related matters. Its objective is the resolution of such problems by mutual agreement of its member agencies. Its findings are in the nature of recommendations to all United States organizations concerned.

The RTCA is not an official agency of the United States Government. Its recommendations, therefore, may not be regarded as statements of official government policy unless so enunciated by the government agency, or agencies, having statutory jurisdiction in the matters to which the recommendations relate.

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ALTIMETRY

I. INTRODUCTION

A. Scope of Studies

In accordance with a request dated June 29, 1954, from the Air Coordinating Committee's Air Traffic Control and Navigation Panel (ACC/NAV), the RTCA Executive Committee designated its Special Committee 70 (SC70) with the following Terms of Reference.

> "This Committee is directed to conduct a study of the problems associated with the measurement of altitude. The study should include (a) the assembly of pertinent information on altimetry, particularly with respect to the accuracy and reliability of the various methods; (b) the operational requirements with respect to the accuracy of altimetry measurement; and (c) methods of measuring altitude which will approximate or meet the operational requirements. The committee is to accomplish the following:
>
> 1. Preparation of a description of currently used altimetrical devices and their applications.
>
> 2. Preparation of a statement of current and anticipated altimetrical operational requirements.
>
> 3. Study of the technical and the operational accuracies of currently used and proposed altimetrical devices and an evaluation of their adequacy in terms of the operational requirements defined under paragraph 2.
>
> 4. Formulation of recommendations as appropriate.
>
> This study is to encompass the altimetry problems of helicopter, jet and other fixed-wing aircraft."

B. Acknowledgements

Early in the studies, it was determined that much of the factual data required for an analysis of altimetry problems either was completely lacking or was not compiled in a readily usable form. Accordingly, the assistance of a number of government and non-government operating, technical and manufacturing organizations (See Section IX Membership of Special Committee 70) was solicited to obtain and assemble the needed data. It was only through the willing and effective cooperation of these organizations that it was possible to proceed with